## ABSTRACT

### *IN VITRO* ANTIMUTAGENIC ACTIVITY OF *ECLIPTA ALBA* USING AMES TEST

Exploring the biomolecules for various medicinal properties from herbal sources are the most vibrating current area of research in the Pharmacology. The usage of *Eclipta alba* for various illness are widespread by documentation of such bioactive molecules and activities are very scanty. The aim of the current study was to evaluate antimutagenic potential of ethanolic extract of *Eclipta alba* (EEEA). The hepatoprotective and antioxidant activity of *E. alba* has been already reported. By considering the wide antioxidant activity *E. alba*, we have decided to determine its antimutagenic activity by *in vitro* Ames test. For the *in vitro* Ames test, two strains of Salmonella typhimurium TA 98 and TA 1535 were used in the presence and absence of rat liver S9 fraction. Various concentrations of EEEA were used for the *in vitro* analysis (1mg, 500, 250 and 100µg/plate) in combination with Sodium azide (2.5 µg/plate). EEEA showed most significant inhibition to the mutagencity induced to TA98 the direct acting mutagens such as sodium azide, ethidium bromide and hydroxylamine. EEEA also showed significant inhibition to the mutagenicity induced to TA98 by direct acting mutagen nicotine in the tobacco leaves and cigarette requiring activites with to $S_9$ preparation. The results of *in vitro* method show that the concentration of EEEA (250 mg/kg) does not have genotoxic potential. In *in vitro* Ames test, it was found that with all four concentrations produced significant reduction in number of revertant colonies in dose dependent manner for both TA 98 and TA 1535 strains in presence and absence of metabolic activation. These results suggest that EEEA possessing significant antimutagenic property in *in vitro*, further the work has to be extended to understand the *in vivo* studies to confirm the antimutagenic effect and genotoxicity analysis.



**Keywords:** *Eclipta alba*, antimutagenic activity, Ames test, *in vitro*